

and other areas helps deliver substantial benefits for this crucial group of 'keystone' pollinators. The first British record of the tree bumblebee *Bombus hypnorum* was in 2001 on the Hampshire/Wiltshire border (Fig. 1). A population quickly became established and since 2007 the range has rapidly expanded to cover much of England. The species has not yet been recorded in Scotland. A distinctive species often found in urban areas, recording by the public is encouraged to monitor this colonisation event.



Fig 1. Tree bumblebee (*Bombus hypnorum*)
Photo credit: Bumblebee Conservation Trust.

Urban Biodiversity: Successes and Challenges: Challenges in Glasgow's urban woodlands

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Glasgow's woodlands are diverse in location from stand-alone woods to park woodlands and Local Nature Reserves, yet whilst there are differing types of woodlands across the city many of the mature woodlands are not diverse in either species or age structures. Glasgow City Council utilises sustainable silvicultural management systems to ensure woodland cover in perpetuity whilst increasing biodiversity through developing native species elements and age

structures of woodlands. There are many challenges to successfully meet the woodland management objectives, including managing woodlands as a social resource as well as an environmental resource.

Urban Biodiversity: Successes and Challenges: Local nature reserves in Glasgow

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INTRODUCTION

The City of Glasgow, commonly known as the 'dear green place', has seven Local Nature Reserves (LNRs). What is meant by the term LNR? Put simply, LNRs are:

- Statutory designations made under the National Parks & Access to the Countryside Act 1949.
- Special places which are rich in wildlife, generally
- Generally, readily accessible and suitable for people to visit and enjoy.

The LNRs - at Garscadden Wood, Dawsholm Park, Robroyston Park, Hogganfield Park, Cardowan Moss, Bishop Loch and Commonhead Moss - were declared by the land owner of all seven sites, Glasgow City Council (GCC). In declaring these sites, GCC aims to:

- Protect them from unsuitable developments
- Manage and enhance the habitats to help biodiversity flourish
- Improve public access
- Help people understand and become more aware of the importance of the LNR
- Encourage community participation and volunteering.

Description of Glasgow's Local Nature Reserves

All seven LNRs are located north of the River Clyde, generally on the edge of the city's built-up area, from Garscadden Wood in the west to Commonhead Moss in the east (Glasgow City Council 2008). Taking each in turn:

Garscadden Wood was declared a LNR in 2006. It is one of Glasgow's oldest semi-natural woodlands in the city. Its main attractions are its bluebells *Hyacinthoides non-scripta* in late spring and the purple hairstreak butterfly *Neozephyrus quercus*, only one of three places where they can be found in the city.

Dawsholm Park consists mainly of policy and plantation woodland and is important for its woodland bird populations. It was designated as an LNR in 2007.

Robroyston Park, declared in 2006, plays host to grassland, wetland and woodland habitats. These prove

ideal for amphibians, dragonflies and damselflies and a host of birds.

Hogganfield Park was the second LNR to be declared, in 1998. It is a great place to see birds, particularly wildfowl, with winter visitors such as whooper swan *Cygnus cygnus* being a speciality. It is also good for summer migrants and has a good range of butterflies.

Cardowan Moss, also declared in 2006, consists of relatively new plantation woodland with a series of ponds and a relict raised bog. It is good for woodland birds, damselflies and dragonflies and amphibians.

Bishop Loch, the first LNR in the city (1995), was established as a direct result of local people protesting against an open cast coal mining proposal in the vicinity of the loch. They felt sure it would destroy what they described as their "local nature reserve". The planning application for the mining was refused by GCC and thereafter by the Scottish Office, following an appeal and public inquiry. Ironically, the area eventually declared doesn't include any of the actual loch but does include the marshy areas adjoining the loch plus a woodland plantation that plays host to typical woodland birds.

Commonhead Moss, the latest LNR declared in 2009, includes much of the largest raised bog in the city. It is particularly important for its butterflies.

It is worth noting that there are a number of other wildlife sites in the City that are protected and, in some cases, managed for wildlife, e.g. Possil Marsh SWT Reserve. GCC has recognized these sites in its City Plan (Glasgow City Council 2009).

Management of Glasgow's Local Nature Reserves (LNRs)

Generally, each LNR has a steering group of officials, interested agencies and local people. They approve, monitor and amend the Management Plans that were prepared as part of the consultation procedure with SNH. Works on the ground are funded by Council budgets, Landfill Credits and grants; and are implemented by council staff, contractors, volunteers and local people including school children.

Examples of Management Works

Dawsholm Park Local Nature Reserve

This LNR consists mainly of policy and plantation woodland and is important for woodland birds. However, the woodland was being smothered by rhododendron *Rhododendron ponticum* resulting in very little regeneration. This resulted in projects being developed, with the support of Forestry Commission Scotland (FCS) and local residents, aimed at bringing the woodland back to good health for wildlife and people. Specific projects included:

- Woodland thinned
- Rhododendron removed
- Footpaths improved and a new fence erected
- Wildflower meadows created
- Highland cattle introduced
- Interpretation/information provided
- BBC Autumn Watch and other events held.

Further improvements are planned, including:

- The planting of thousands of trees.
- The erection of woodcrete bird nest boxes.

Hogganfield Park

The LNR was declared primarily due to the importance of Hogganfield Loch, however, a number of works have been undertaken to widen the scope and range of habitats and species in the LNR - this is an ongoing project that was first started to demonstrate what could be done in the context of the evolving Biodiversity Plan for the city. Specific projects at Hogganfield Park LNR include:

- Wetlands/ponds created
- BBC SpringWatch and other events held
- Information/interpretation boards erected
- Wildflower meadows created/managed
- Rhododendron removed
- Bird perching posts and loafing pontoon installed
- Loch edges improved.

Further improvements are planned, including:

- Naturalisation of the loch edge at the existing car park
- Creation of a bird viewing and feeding platform.
- Enhanced public access.

The works listed above were undertaken by groups such as BTCV, Scottish Wildlife Trust, Score Environment, BBC and GCC utilising contractors, council staff, volunteers and local school children.

Way Forward

With the current economic crisis and the likely reduction in public sector funding for LNR type work, what can be done to ensure that people can continue to have access to nature on their doorstep?

I would suggest that this can be achieved at both the macro and micro scale.

Firstly, at the macro scale, partnership working is key. For example, through partnerships established with:

(i) *Local Groups*

These include groups such as Froglife, the RSPB Glasgow Local Group, and BTCV.

(ii) *Forestry Commission Scotland (FCS)*

The Council has reached agreement, in principle, for the FCS to take over the day-to-day management of a number of woodlands in the City, including 3 LNRs - Garscadden Wood, Cardowan Moss and Bishop Loch. (Glasgow City Council 2009).

(iii) *Gartloch-Gartcosh Project*

This project covers an area stretching from Hogganfield Park LNR through to Drumpellier Country Park in North Lanarkshire and includes Cardowan Moss, Bishop Loch and Commonhead Moss LNRs. A consultants study (Land Use Consultants 2008), commissioned by a host of agencies, recognised that the area is potentially of national importance for wildlife. This Strategy - the Gartloch-Gartcosh Green Network Strategy - has been well received and a number of agencies have already progressed a variety of projects; e.g. see Section 4 in relation to

Hogganfield Park LNR. It is important that the agencies that commissioned the consultants' report continue to commit to its implementation.

Whilst these projects and ideas are crucial to ensure the future of LNRs at the macro scale, the future of 'nature' in the City could be said to be in the hands of local people. Why local people? At the 'micro' scale, they already manage a considerable 'green' resource – gardens and allotments. With minor changes to their management, there could be huge benefits for nature without any cost to the public purse. As a result, green corridors would be created, just like the large scale habitat works proposed through the Gartloch-Gartcosh Project, but on a smaller scale.

Gardens play host to a whole range of wildlife and are key to engaging with current and future generations. Even small spaces can be managed for wildlife and this in turn could awaken an interest and quest for knowledge that can only benefit us all. Having experienced what can be attracted to their garden many people will take more of an interest in their LNR or wildlife site. Who here at today's Conference hasn't already taken that step? This leads me to my final point. If you care about wildlife or nature you can all make a difference. If you care about Glasgow's wildlife I would ask you to consider whether you would join or help create a 'Friends of Glasgow's Local Nature Reserves' whose aim would be to lobby and raise funds for Glasgow's wildlife whether at the macro or micro scale. Thank you and remember Glasgow's Wilds Better!

ACKNOWLEDGEMENTS

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Urban Biodiversity: Successes and Challenges: Health-promoting environments – is good greenspace good enough?

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In 2009/2010 greenspace Scotland worked with NHS Health Scotland, Scottish Natural Heritage, Glasgow City Council and the Dundee Environment Partnership to develop and publish what is known as an outcomes framework showing how work to create, maintain and manage greenspace can contribute to the delivery of national and local health priorities (greenspace Scotland, 2010). An outcomes framework is a linked series of logic models which draw on available evidence to demonstrate the connection between planned actions and desired outcomes. This knowledge and approach can help practitioners to better make the case for investing time and resources into greenspace and to improve the planning and evaluation of what we do 'on the ground'.

Our research project used eight pieces of greenspace work and a review of existing research literature. The work was set in the context of national health priorities which are expressed and interpreted at a local level. We considered three outcomes - increased levels of physical activity; enhanced mental health and wellbeing; reduced health inequalities - which partners felt could easily be linked to greenspace. These were a synthesis of outcomes contained in the Dundee and Glasgow Single Outcome Agreements.

This work allowed us to draw a series of important conclusions:

People need to use and/or value greenspace to derive the maximum health benefits.

Most of the health benefits reported in the research require either direct interaction with the environment or some level of positive personal response to the environment.

Simply creating or preserving greenspace is not enough.

Not all greenspace is beneficial to health – poor spaces can be detrimental to mental health and wellbeing and deter people from taking physical exercise; they can become the places which communities avoid rather than the places where they come together. The potential health benefits of greenspace are only realised if we have the right distribution and mix of spaces.

Appropriate management is crucial.

The potential for delivering health benefits is